Bruhat Bangalore Mahanagara Palike
Executive Engineer Yelahanka Project Division

Name of Work : Providing RO plant in Jakkur in ward no-05

Sl. No	Description		No	L	B	D	Qty	Rate	Amount
1	Earth work excavation for foundation of building, water supply, sanitary lines and electrical conduits either in pits or in trenches 1.5m and above in width, in hard soil not exceeding 1.5m in depyh including the bottom and sides of pits and trenches, stacking the excavated soil clear from edges of excavation with lead upto 50m. after breaking of clods complete as per specification No. KBS 2.1 (b)/ 2.3.5 PWD SR 2018-19 It No.2.4 Pg. No.6								
	Basic Rate		449.00						
	Area Weightage 8%		35.92						
	Total		484.92						
	For Columns	3	4	1.20	1.20	0.70	12.10		
	Long walls	3	2	6.50	0.80	0.70	21.84		
	Short walls	3	2	2.33	0.80	0.70	7.83		
						Cum	**41.76**	**484.92**	**20252.59**
2	Providing and laying in position plain cement concrete of mix 1:3:6 with OPC cement @ 220kgs, with 40mm and down size graded granite metal coarse aggregates @0.892cum and fine aggregates @ 0.465cum machine mixed, machine mixed, concrete laid in layers not exceeding 15 cms. thick, well compacted, in foundation including cost of all materials, labour, HOM of machinery, curing complete as per specifications. Specification No. KBS 4.1, 4.2.PWD SR 2018-19 It No.4.2 Pg. No.13								
	Basic Rate		5194.00						
	Area Weightage 8%		415.52						
	Total		5609.52						
	For Columns	1	4	1.20	1.20	0.10	0.58		
	Long walls	1	2	6.50	0.80	0.10	1.04		
	Short walls	1	2	2.33	0.80	0.10	0.37		
	Flooring	1	1	5.17	2.65	0.10	1.37		
						Cum	**3.36**	**5609.52**	**18841.54**
3	Providing and constructing granite / trap / basalt size stone masonry in foundation with cement mortar 1:8, stone hammerd dressed in courses not less than 20 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13 PWD SR 2018-19 It No.5.5 Pg. No.25								
	Basic Rate		4494.00						
	Area Weightage 8%		359.52						
	Total		4853.52						
	1nd Footing								
	LW	1	2	6.20	0.60	0.40	2.98		
	SW	1	2	2.63	0.60	0.40	1.26		
						Cum	**4.24**	**4853.52**	**20571.16**
4	Providing and constructing granite / trap / basalt size stone masonry in basement with cement mortar 1:6, edges of stones chistle dressed in courses not less than 15 cms high, bond stones at two m. apart in each course including cost of materials, labour, curing complete as per specifications. KBS 5.1.13 PWD SR 2018-19 It No.5.6 Pg. No.25								
	Basic Rate		4596.00						
	Area Weightage 8%		367.68						
	Total		4963.68						
	Basement								

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SW	1	2	6.20	0.45	0.40	2.23		
W	1	2	2.63	0.45	0.40	0.95		
					Cum	3.18	4063.68	13779.00

	Providing flush pointing to square rubble, course or uncoursed stone masonry with cement mortar, 20mm deep, after raking joints to depth of 20mm nicely lining, including cost of materials, labour, HOM curing complete as per specifications PWD SR 2018-19, It No 14.12.1							
	Basic Rate		141.00					
	Area Weightage 8%		11.28					
	Total		152.28					
	Basement							
	SSW	1	2	6.20		0.40	4.96	
	SW	1	2	2.63		0.40	2.10	
						Sqm	7.06	152.28	1076.00

5	Providing and laying in position reinforced cement concrete of design mix M25 with OPC cement @ 340kgs, with 20mm and down size graded granite metal coarse aggregates @0.70cum and fine aggregtes @ 0.47cum, with superplastisiser @3lts confirming to IS9103-1999 Reaffirmed-2008, machine mixed, concrete laid in layers not exceeding 15 cms thick, vibrated for all works in ground floor level for roof slabs, staircase, lintles and beams retaining walls, return walls, walls (any thickness) including attached pilasters, columns, ,pillars, posts, struts, buttresses, string or lacing courses, parapets, coping, bed blocks, anchor blocks, plain window cills, fillets etc., including cost of all materials, labour, HOM of machinery, curing, complete but excluding cost of reinforcement as per specifications. Specification No. KBS 4.1, 4.6 PWD SR 2018-19 It No.4.12Pg. No.14							
	Basic Rate		6045.00					
	Area Weightage 8%		483.60					
	Total		6528.60					
	For Footing	1	4	1.20	1.20	0.20	1.15	
	For column	1	4	0.23	0.30	5.60	1.55	
	Plinth Beam	1	2	5.50	0.23	0.20	0.51	
		1	2	2.65	0.23	0.20	0.24	
	Roof Beam	1	2	5.50	0.23	0.20	0.51	
		1	2	4.06	0.30	0.20	0.49	
	For slab	1	1	5.50	4.06	0.15	3.35	
	For lintel	1	2	5.50	0.20	0.10	0.22	
		1	2	2.65	0.20	0.10	0.11	
						Cum	8.12	6528.60	52987.00

7	KSRB 4.9.2 : Providing T.M.T steel reinforcement for R.C.C work including straightening, cutting, bending, hooking, placing in position, lapping and / or welding wherever required, tying with binding wire and anchoring to the adjoining members wherever necessary complete as per design (laps, hooks and wastage shall not be measured and paid) cost of materials, labour, HOM of machinery complete as per specifications. Specification No. KBS 4.6.3 - TMT bars Fe 500 Specification No.KBS 4.6.3 PWD SR 2018-19 It No.4.46.2Pg. No.18							
	Basic Rate		64410.00					
	Area Weightage 8%		5152.80					
	Total		69562.80					
			Nos	Qty	Kg/cum	Kgs		
	For footings @ 50 Kg/ Cum	1	1	1.15	50	57.6		
	For Columns @ 80 Kg/ Cum	1	1	1.55	80	123.648		
	For Beams @ 80 Kg/ Cum	1	1	3.11	80	248.8		
	For slabs @ 90 Kg/ Cum	1	1	4.91	90	441.9		

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	For chisel @ 45 Kg / Cum	1	1	0.83	45	28.35			
						850.248			
						Tons	0.90	850.25	850.25
8	KBR 8.6.2 : Providing and removing centering, shuttering, strutting, propping etc., and removal of form work for vertical surface such as walls at any thickness, including attached pilasters, buttresses, plinth offs and string courses cost of all materials, labour complete as per specifications. Specification No. KBR 8.6.2 PWD SR 2018-19 R No.4.31Pg. No.18								
	Basic Rate		358.00						
	Area Weightage 8%		28.64						
	Total		386.64						
	For Footing	1	4	4.80		0.30	5.76		
	For column	1	4	1.06		5.60	23.74		
	Plinth Beam	1	4	5.50		0.30	6.60		
		1	4	4.06		0.30	4.87		
	Lintel	1	2	5.50		0.30	3.30		
		1	2	2.85		0.20	1.08		
	Roof Beam	1	4	5.50		0.15	3.30		
		1	4	4.08		0.10	1.62		
	For slab	1	1	5.50		0.10	0.55		
						Sqm	50.81	386.64	19643.00
9	Providing and constructing load bearing wall with solid concrete blocks of size 400x200x200 mm having block density not lessthan 1800 kg/m3 and having a minimum average compressive strength 5.00 N/mm2 confirming to IS 2185 (Part) : 2005 and constructed with CM 1:4 , as per IS 2572:2005 including cost of all materials, labour charegs, scaffolding, curing complete as per specifications. KBS No.5.4 **PWD SR 2018-19 R No.5.26.1Pg. No.27**								
	Basic Rate		912.00						
	Area Weightage 8%		72.96						
	Total		984.96						
	L W	1	1	6.86		3.60	24.70		
		1	1	6.86		3.90	26.75		
	S W	1	1	3.00		3.60	10.80		
		1	1	3.00		3.90	11.70		
	Deduction								
	RS	1	-1	2.60		2.50	-6.50		
	W	1	-1	1.20		1.20	-1.44		
						Sqm	66.01	984.96	65017.00
10	Providing 12mm thick cement plaster in single coat with cement mortar 1:4, to ceiling including rounding off corners wherever required smooth rendering. : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.**PWD SR 2018-19 R No.15.22Pg. No.116**								
	Basic Rate		225.00						
	Area Weightage 8%		18.00						
	Total		243						
	For ceiling	1	1	5.10	2.65		13.52		
						Sqm	13.52	243.00	3284.00
11	Providing 12mm thick cement plaster in single coat with cement mortar 1:3, to brick masonry including rounding off corners wherever required smooth rendering. : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications.**PWD SR 2018-19 R No.15.9Pg. No.115**								
	Basic Rate		211.00						
	Area Weightage 8%		16.88						

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	Total		227.88						
	Inside Plastering								
	LW	1	1	5.50		3.60	19.80		
		1	1	5.50		3.90	21.45		
	SW	1	1	3.05		3.60	10.98		
		1	1	3.05		3.90	11.90		
							0.00		
	Deduction								
	RS	1	-1	2.60		2.50	-6.50		
	W	1	-1	1.20		1.20	-1.44		
						Sqm	50.19	227.88	11436.00
12	Providing 15mm thick cement plaster in single coat with cement mortar 1:6, to brick masonry including rounding off corners wherever required smooth rendering. : Providing and removing scaffolding, including cost of materials, labour, curing complete as per specifications. **PWD SR 2018-19 It No.15.17Pg. No.115**								
	Basic Rate		245.00						
	Area Weightage 8%		19.60						
	Total		264.6						
	External Plastering								
	LW	1	1	5.50		3.60	19.80		
		1	1	5.50		3.90	21.45		
	SW	1	1	3.05		3.60	10.98		
		1	1	3.05		3.90	11.90		
	Steps								
	Tread	1	1	0.30		4.20	1.26		
	Rise	1	1	0.15		4.20	0.63		
	Deduction								
	RS	1	-1	2.60		2.50	-6.50		
	W	1	-1	1.20		1.20	-1.44		
						Sqm	58.08	264.60	15367.00
13	Providing and fixing Special make glazed Vitrified tiles (Granomite finish) of approved make, quality and colour of size 600x600x10mm thick fixed on existing flooring with a special roffe adhesive for flooring and skirting etc., complete including providing spears at required interval and removing stains etc., complete.)**PWD SR 2018-19 It No.14.43Pg. No.109**								
	Basic Rate		1099.00						
	Area Weightage 8%		87.92						
	Total		1186.92						
	Flooring								
		1	1	5.10	2.65		13.52		
						Sqm	13.52	1285.20	17369.00
14	Providing skirting, dado, rises of steps with colour glazed tiles on 10mm thick cement plaster 1:3 and jointed with white cement slurry over rough plaster surface (excluding cost of rough plastered surface which should be measured and paid separately) using glazed tiles of approved make and size including cost of materials, labour, complete as per specifications. Specification No.KBS 14.16, 14.17 - Colour glazed tiles 30x60 cms 6mm thick with border of size 30 x 10 cms. **PWD SR 2018-19 It No.14.41.2 Pg. No.108**								
	Basic Rate		1632.00						
	Area Weightage 8%		130.56						
	Total		1762.56						
	Dadoing								
		1	2	5.10		0.30	3.06		
		1	2	2.65		0.30	1.59		
	Deduction	1	-1	2.60		0.30	-0.78		

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							Sqm	3.87	1761.58	6821.00

providing and fixing pull and push type rolling shutters of approved make out of 18 gauge, 75mm size cold rolled steel laths of convex corrugation, with side guides and bottom rail, with locking arrangements for steel laths by means of alternate clips, suspension shaft with high tension coil type springs (two numbers, mounted on specially designed pipe shaft, with bracket plates, guide channels, ball bearing arrangements, for inside & outside locking with push & pull handles complete including pulling hooks, stoppers, Handles with all fittings and accessories, painted with a coat of red lead paint (without top cover) cost of materials, labour, HOM of machinery complete as per specifications. Shutter size 3mx3.8 m. Specification No. KBS 7.10 / 7.11 **P&D SR 2018-19 R No.7.5 Pg. No.53**

Basic Rate		260.00							
Area Weightage 8%		20.80							
Total		280.80							
Roofing Shutter	1	1	3.60	3.10			3.48		
						Sqm	3.48	2815.58	13173.00

16	Providing and applying two coats with all bound washable distemper Two Coats of distemper of approved brand and shade on Ceiling & sloped roof including priming coat with distemper primer after throughly brooming the surface free from mortar drops and other foreign matter including scraping the surface even and sand paper smooth, cost of materials, labour, complete as per specifications. **PWD SR 2018-19, R No.15.48.1 Pg No.119**								
	Basic Rate		110.00						
	Area Weightage 8%		8.80						
	Total		118.80						
	Qty Same as Internal Plastering						50.19		
						Sqm	50.19	118.80	5962.00

17	Providing and finishing external walls in two coats with waterproof cement paint of approved brand and shade to give an even shade after throughly brooming the surface to remove all dirt and loose powdered material, free from mortar drops and other foreign matter cost of materials, labour, complete as per specifications. **PWD SR 2018-19 R No.15.53.1 Pg. No.120**								
	Basic Rate		89.00						
	Area Weightage 8%		7.12						
	Total		96.12						
	Qty Same as External Plastering						58.08		
						Sqm	58.08	96.12	5582.00

18	KSRB 7.9: Providing and fixing M.S Grill work for windows and ventilators using M.S flats or M.S hsquare rods or combination of M.S flat and square rods as per approved deisgn, drawing including cutting steel sections and welding the same to required pattern with a coat of red lead primer, cost of materail, fixtures, labour and HOM of machinery complete as per specification. Specification No:KBS 7.12 **(P.No:34 Items No:7.9 of PWD SR 2018-19)**								
	Basic Rate		95.00						
	Area Weightage 8%		7.60						
	Total		102.60						
	W	1	1	1.00		1.00	1.00		
							21.00		
						kgs	21.00	102.60	2154.60

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19	Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings including fixing the pipe with clamp at 1.00 mtr spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement & the cost of cutting chases & making good the same including testing of joints complete. (Concealed work including cutting chases and good the walls etc.) - 32mm nominal OD pipes **PWD SR 2018-19 It No.13.77 Pg. No.96**								
	Basic Rate		129.00						
	Area Weightage 8%		10.32						
	Total		139.32						
		1	1	36.00			36.00		
						Rmt	**36.00**	**139.32**	**5016.00**

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	DESIGN, SUPPLY, INSTALLATION, COMMISIONNING OF RO PLANT 2000LTR PER HOUR CAPACITY WITH RO PLANT-2000LPH WITH COIN BOOTH								
20	1.Raw Water pump Qty officer-one number type Mon Block centrifugal operation flow rate -4M3/hr operation pressure.4.0kg/cm2 type of drive- phase squirred cage induction motor make-CRI/TEXmo 2.Multigrated sand filter (MSF) Qty offere-one number Type -Top and bottom flow size-15"x65" operation floe rate-4M3/hr Operation pressure-4.0kg/cm2 Type of Modia-Dual-Sand and anthracite Supporting media-Gravels and Silex MOC of shell-FRP Make PARTNER/Aventura 3.Activated Carbon filter (ACF)Qty Offere -one Number Type Top and bottom flow size 16"x65" operation flow rate-4M3/hr operation pressure-3.5kg/cm2 type of Media Activated carbon flakes Type of resin-150kgs MOC of shell-FRP make -PARTNER/Aventura JODINE VALUE-500value 4.Micro Cartridge Filter Nos 5.Antiscalent Dosing UntilQty Offere -one number 6.Multistage Centrifugal pumo high pressure pump Qty Offe-one nos Type-Multistage Centrifugal Operation flow rate-4M3/hr operation pressure-10 to 15kg/cm2 material of construction -SS 316 Make pump-Cri/Kirloskar/unique Type of drive motor-three phase,squired cage indicator KWRPM-2.75/2000(Approx) Make of motor crl/kirloskar 7.R.O Membrane skid consists of (SS 304) a.R.O Membrane b.pressure tubes number of streams offered one type of membrane-spiral wound TFC brackish water membrane-imported make HYDRONTICS/OE marlin 8040 operating pressure -10 to 15kg/cm2 material of construction polumade thin film composite material of housing-FRP 8.Mineral Dosing system (product water storage tank) Qty Required no-s material of construction-SS 304 Capacity-1000Ltrs 9.Micron Cartridge module 2/1/0.5 Micron nos of cartridges-two nos type disposable Cartridge operating flow rate-3.00kg/cm2 microne Rating-2/1/0.5Micron MOC OF HOUSING Fiber MOC of cartridge-polypropylene 10.System control pane 11.RO Reject Line 12.1000 ltrs SS storage tank 304 food grade13.coin both with optional coin 14.Control panel consist og 15.a.Flow Meters 16.B.Pressure monitors 17.c.Online conductivity/ph meter 18.d.Sampling tap 19.e. Operation switches 20.Basis of design 21.Raw water characteristics 22.PH 6 to 8 23.Total suspended solids-nil 24.Total dissolved solids-2000 25.Iron AS Fe<1 26. Total Hardness as Caco3-1000 27.Total Alkalinity as CaCo3-250 28.Total Alkalinity as Caco3-250 28.Alkalinity as CaCo3-nil. 29.Chloride as CaCo3-<200. 30.Fluoride-<1 31.Sulphate as CaCo3-25.								
			1				1.00		
						Each	1.00	1,050,000.00	1,050,000.00
	ELECTRICAL WORKS								
	Open Conduit System								
21	supplying heavy gauge pvc conduit pipe... dia confirming to IS 2509 with suitable size benda. Junction boxes, adhesive paste etc., and fixing using inverted wood plugs in case of RCC ceiling and RCC wall stone structure or rawl plugs in case of brick walls and cement plastering dameged portion using havey gauge saddles at an intereval of 70mm using NF screws **(ELE SR 2019-20 Page-2, Item-1.1.2)**								
	25mm dia 2mm thick Concealed Conduit System	1	28			mtr	28	65.00	1820.00
22	Suppling... mm dia 2mm/2.5mm thick heavy gauge PVC conduit pipe with suitable size bends, metal/PVC junction boxes adhesive paste etc.,, and running before concreting the slab. The conduit should be tied to the reinforcement rods by using binding wires and unused ways of junction boxes and pipe ends should be covered using PVC end enclosures. run with 18SWG GI fish wire wherever necessary.**(ELE SR 2019-20 Page-2, Item-1.2.2)**								
	25mm dia 2mm thick	1	28			mtr	28.00	53.00	1484.00
23	Groove cutting in the wall suppling.. Dia 2mm/2.5mm thick heavy gauge PVC Conduit pipe with bends, metal junction boxes adhesive paste etc., and bracing U or J hooks and cement plastering up to the surface of the brick level and run with 18 SWG GI fish wire run through out conduit wherever necessary.**(ELE SR 2019-20 Page-2, Item-1.3.2)**								
	25mm dia 2mm thick	1	23			mtr	23.00	54.00	1242.00

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26	Supplying and fixing sheet metal box made out of 18 SWG sheet metal with necessary holes for cable/conduit entry as required with one coat of approved make etc.,.**(ELE SR 2019-20 Page-2, Item-1.4.8)**									
	200x65x65mm	1	3			Each	3.00	111.00	333.00	
25	Supplying and fixing PVC/ Metal conduit accessories. (3/5) **(ELE SR 2019-20 Page-3, Item-1.5.3)**									
	142mm deep junction box	1	1			Each	1.00	60.00	60.00	
8	Supplying and flush mounting teak wooden box without front plank, made of not less than 12mm thick wood, after due groove cutting, necessary masonry patch work complet. **(ELE SR 2019-20 Page-3, Item-1.6.1)**									
	12"x12"x3"(330x300x76mm	1	10			mtr	10.00	102.00	1020.00	
	Supplying and wiring adopting loop system in existing PVC Conduit/ casting capping using copper PVC insulated multi strand 2x1.5sqmm copper wire with a 6 Amps flush type SP control switch shall be fixed on the existing plastic sheet / gang box. The outher end of the wires shall be terminated with sufficient loose lenght in a wood / PVC round block. compelete for each outlet. **(ELE SR 2019-20 Page-5, Item-2.1.2)**									
	Medium point above 3Mtr up to 6 mtr from tapping point to out let via switch					Each	12	275.00	3300.00	
8	Supplying and fixing superior quality modular switch mounting polycarbonate plate with necessary supporting back plate with required nos, of machines screws, bolts nuts etc., complete on the existing metal/PVC box,**ELE SR 2019-20 Page-9, Item-3.5.3)**									
	Group-A									
	Moudule	1	5			No	5	175.00	875.00	
29	Supplying and fixing of 32 Amps security and energy saving DP switch with key tag suitable to operate on 230 volts, 50Hz AC supply and completely wired on existing box. **ELE SR 2019-20 Page-10, Item-3.7)**									
	Group 'A'	1	2			Each	2	680.00	1360.00	
30	Wiring for lighting/power circuit using one of pvc insulated 1100v grade, multistrand copper conductor singal core cable in open or concealed system of wiring.**ELE SR 2019-20 Page-5, Item-2.3.2)**									
	1. Group-A									
	a)1.5sqmm		3	86		mtr	258	20.50	5289.00	
31	Supplying and fixing of PVC casing and capping on the wall or ceiling using necessary materials like bends, screws at an interval of 300mm... Etc as required. **ELE SR 2019-20 Page-3, Item-1.8.1)**									
	20mm	1	15			Each	15.00	22.00	330.00	
32	Supplying PVC/GI Flexible conduit pipe.. Mm dia fixing on surface over inverted wooden pugs or phill plugs or rawl plugs and clamped using heavy gauge saddles at an interval of 300mm using NF screws and either end of the pie terminated completely. **ELE SR 2019-20 Page-3, Item-1.9.1)**									
	20mm	1	16			Each	16.00	22.00	352.00	
33	Extra for supplying 4mm thick white plastic plate and covering for junction boxes of size 110mm conduit using necessary machine screws.. **ELE SR 2019-20 Page-10, Item-3.10.2)**									
	110mm	1	16			Each	16.00	11.00	176.00	

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Providing and fixing Chorinated Poly Venyl Chloride (CPVC) pipes conforming to IS 15778, having thermal stability for hot and cold water supply including all CPVC plain and brass threaded fittings excluding fixing the pipe with clamp at 1.00 mtr spacing. This includes jointing of pipes and fittings with one step CPVC solvent cement & the cost of cutting chases & making good the same including testing of joints complete. (Concealed work including cutting chases and good the walls etc.) - 20mm nominal OD pipes. **(P.No.99, I.No. 13.86.2 of PWD SR 2018-19)**									
Basic Rate		235.00							
Area Weightage 8%		18.80							
Total		253.8							
		1	25			Rmt	25	253.80	6345.00
BESCOM Deposite Charges	Nos	1					1.00	14000.00	14000.00
								Total Construction Cost	1453147.00
								Towards GST 12%	46,697.64
								Sub Total	1499844.64
								Utility Shifting,Miscellaneous and Rounding off	155.36
								GRAND TOTAL	1500000.00

Certificate

1. The workspot was inspected and works is found to be necessary.
2. The rates adopted based on the PWD SR,Bangalore circle for year 2018-2019, PRED, BWSSB, KPWD Electrical SR for year 2018-2019 and Data Rates

Assistant Engineer
Yelahanka Project Division
BBMP Bangalore

Asst. Executive Engineer
Yelahanka Project Division
BBMP, Bangalore - 92

Executive Engineer
Yelahanka Project Division
BBMP, Bangalore-92

Administrative Approval

Accorded For RS 15 lakhs only
Head of A/C..P.3035.....
CER NO :.....15..... Dt:10.09.2020

TA

CE (YNK)

Technical Sanction
Accorded For Rs 15.00 Lakhs
Head of A/C.....P.3035.....
CER NO :.....15..... Dt:10/9/2020

S.E. (Project)

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